

Final

**Regional 1% Conservation
Program**

**2001 Residential Programs
Evaluation Report**

Volume 1: Findings

Submitted to

**SAVING WATER PARTNERSHIP
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EXECUTIVE SUMMARY

INTRODUCTION

The goal of the regional 1% Water Conservation Program (1% Program) is to reduce regional water use by 1% per capita per year for the next 10 years, equal to 18 million gallons per day (GPD) by 2010. The 1% Program, begun in 2000, is funded and implemented by the Saving Water Partnership (SWP), encompassing SPU and their 25 wholesale water providers. Evaluating the 1% residential programs is essential to charting progress toward the 18 MGD goal: residential customers account for over half of total water consumption and potential water savings.

2001 RESIDENTIAL EVALUATION APPROACH

This evaluation examines how well residential conservation programs met their objectives in 2001. The following indicators, based upon input from program managers and program documents, were chosen to document the 2001 1% Program impacts and processes.

Table 1 Progress Indicators – 2001 1% Residential Conservation Programs

<i>Impact Indicators</i>	<i>Process Indicators</i>
<ul style="list-style-type: none">✓ <i>Permanent water savings</i>✓ <i>Cost-effective water savings</i>✓ <i># rebates, participants, brochures</i>✓ <i>Changes in customer behavior</i>✓ <i>Evidence of market transformation</i>✓ <i>Curtailment of use due to the drought alert</i>	<ul style="list-style-type: none">✓ <i>Changes in customer knowledge, awareness, attitudes</i>✓ <i>Customer satisfaction (includes program delivery & equipment)</i>✓ <i>Effective promotion</i>✓ <i>Insights about a new program strategy</i>

IMPACT INDICATORS

Permanent and Cost-Effective Water Savings

As shown in Table 2, the residential 1% conservation efforts met and exceeded their overall savings goals, achieving over 1 million gallons per day in permanent savings compared to the 600,000 GPD goal. Individually, indoor and outdoor efforts also exceeded their savings goals. All savings met SPU's cost-effectiveness requirement, costing less than \$1.89/ccf.

Table 2 2001 Indoor and Outdoor 1% Program – Savings and Performance

Strategy	Desired Outcomes (Program names in parentheses)	GPD Savings Goal	Estimated GPD Savings*	Levelized Cost/ccf
Indoor				
Provide fixture rebates	Accelerate use of efficient washers (WashWise, LaundryWise), toilets (Toilet Round-Ups, Multi-family), and faucet aerators (Conservation Kits)	300,000	360,000	\$1.10
Promote fixtures and transform markets	Accelerate use of efficient fixtures without rebates ; transform fixture markets.	50,000	200,000	\$0.28
Promote water saving behaviors	Accelerate and maintain indoor conservation behaviors	50,000	100,000	\$0.89
Total Indoor GPD		400,000	660,000	\$0.82
Outdoor				
Promote water savings behaviors	Accelerate and maintain outdoor conservation behavior (Naturals, Green Industry Partnerships, Soaker Hose Promotion)	200,000	350,000	\$0.71
Total Outdoor GPD		200,000	350,000	\$0.71
Total Savings		600,000	1,010,000	
Note: SPU provided goals, savings, and levelized costs using data from surveys, consumption records, & and other sources.				
*Includes 100,000GPD under rebate savings that may be due to non-rebate aspects of programs such as education and marketing.				

Number of Rebates, Participants, Brochures

As Table 3 shows, residential program performance was very strong. In most cases goals were exceeded, often substantially. Purchases of soaker hoses and attendance at teacher workshops were notably lower than the goals set.

Table 3 2001 Measure Targets and Performance

Measure	Targets	Performance
Indoor		
# Single Family Toilet Rebates	2,000	4,892
# Multi-family Toilet Rebates	Not set	100
# Low Income Toilet Rebates	Not set	810
# Free Faucet Aerators	75,000	100,000
# Washing Machine Rebates	8,000	8,275
# Coin Operated Washer Rebates	Not set	96

Measure	Targets	Performance
Outdoor		
# Naturals Guides Distributed	30,000	32,000
# Soaker Hose Rebates	8,000	4,065
# Nursery Class Participants	Not set	160
Support Programs (not responsible for direct savings)		
# Youth Conservation Kits Distributed	20,000	(by 9/1/01) 19,500
# Teachers Attending Workshops	60	23
# Shared Waters Books Distributed	Not set	5,000

Changes in Customer Behavior

- ✓ According to comparisons of the 1999 and 2001 regional conservation survey results:
 - ✓ Over half (58%) of customers report they are using less water than they did two years ago; 42% of these customers report they have reduced their use by 10% or more (one-quarter of residential customers overall).
 - ✓ Toilet flushing with every use has substantially declined in the past two years – from 60% in 1999 to 50% in 2001. This may be evidence of “behavioral transformation.”
 - ✓ The frequency of lawn watering has decreased: in 1999, 30% of customers watered their lawns once a month or less, compared to 52% in this category in 2001.
 - ✓ Use of compost has declined since 1999 (66% down to 51%).
 - ✓ The proportion of customers in 2001 mulching beds (58%), adjusting automatic irrigation systems for weather (56%), and having automatic systems inspected (7%%) has not changed from 1999.
- ✓ Among program participants:
 - ✓ Just over a quarter of **Toilet Round-Up** and **WashWise** participants reported that their program participation had caused them to take additional water saving steps.
 - ✓ Only 17% of **Toilet Round-Up** participants reported their amount of toilet flushing increased with their new toilets, and 19% said they flush less. (Multiple flushes are often cited anecdotally as a problem with low-flow toilets.)
 - ✓ Only 16% of **WashWise** participants report they do more loads of clothes with their new washers, and 24% say they do fewer loads. The washers also seem to prompt more full loads; the percent of customers always doing full loads increased from 47% to 52%

- ✓ 20% of **Conservation Kit** recipients reported using their flow-rate bag to measure water flow from their showerhead, 17% of them found their showers inefficient, and half of this group changed out their showerheads.
- ✓ 99% of **Soaker Hose Promotion** participants said they would be using the hoses in new applications, primarily to replace hand watering or hose-end sprinklers. Participants followed some, but not all, of the correct procedures to install the hoses.

Evidence of Market Transformation

- ✓ According to various sources, the market share of resource efficient washers in the SWP territory is between 25-30% for 2001, compared to a market share of about 2% at the program's inception in 1997.
- ✓ The number of rebates and the market share has increased each year the program has operated. Regional data shows that in places where utility rebates and other incentives have been available, sales of resource efficient washers have been stronger than in areas where they have not been available.
- ✓ It is likely that **WashWise** influences purchases of resource efficient washers outside of the program. A recent analysis from the Northwest Energy Efficiency Alliance estimated that about 57,000 resource efficient washers were sold in Washington in 2000. Prorated by population, this would mean that about 16,500 of these washers were sold in King County, or double the number of WashWise rebates paid out in 2000.

Curtailement of Use Due to Drought Alert

- ✓ In the 2001 regional survey, significant proportions of all customers reported reduced indoor and outdoor water use in response to the drought alert: Due to the drought alert:
 - ✓ 41% of customers reported they increased their full loads of dishes and clothes
 - ✓ 32% shortened their showers
 - ✓ 32% flushed less
 - ✓ 4% went to a car wash that recycled water
 - ✓ 62% with lawns said they watered them less
 - ✓ 23% with lawns watered early in the morning and in the evening

KEY PROCESS FINDINGS

Changes in Knowledge, Awareness and Attitudes

- ✓ According to the regional surveys:
- ✓ The proportion of customers who feel it's "very important" to actively conserve water has risen by 9% between 1999 and 2001, from 49% to 58%.
 - ✓ Many customers think they can save more water, even though almost half believe they have decreased their use by 5% or more in the past two years.
 - ✓ Customers report an increasing reliance on utilities for information about appliances (a rise from 0% to 15% between 1999 and 2001), suggesting an increased opportunity to influence customer behavior.
 - ✓ When asked to choose their most important reason to save water, customers most often chose environmental protection and saving salmon (with salmon rising from 11% in 1999 to 22% in 2001). These reasons directly reflect umbrella marketing efforts over the past two years.
- ✓ Among 2001 program participants:
 - ✓ **Toilet Round-Ups** increased familiarity with low-flow toilets for 60% of participants and helped 40% overcome their reservations about low-flow toilets. 59% of participants said they were spurred to participate, at least in part, by environmental reasons.
 - ✓ Over half of **WashWise** participants said they were either not familiar or somewhat familiar with resource efficient washers before getting a rebate through the program. As with the toilet change-outs, environmental motivations were important in their decision-making.
 - ✓ 11% of **Soaker Hose** participants became aware of the hoses for the first time due to the promotion, and 28% were first time hose buyers. Most customers were motivated to buy the hoses for water saving reasons and most expected to save water with the hoses (even though the hoses may not save water if installed incorrectly).
 - ✓ Although less than half of participants received the Naturals brochures through the **Soaker Hose Promotion**, most read them (and were satisfied with them).

Customer Satisfaction

- ✓ Based on the 2001 regional conservation survey, 84% of customers are aware their water utilities provide water conservation information and services, 88% believe these services are very or somewhat important, and 89% are very or somewhat satisfied with the services.
- ✓ Among 2001 program participants:

- ✓ Customer satisfaction with program rules was high for the **Toilet Round-Ups**, but customers complained over long lines and traffic jams on event days. Still, 86% said it was “worth the effort and that they would recommend the program to others.”
- ✓ 92% of **Toilet Round-Up** participants said they would “recommend their new toilet to a friend.”
- ✓ **WashWise** is a well-oiled program, garnering high customer satisfaction ratings for both program operation and the washing machines. Almost half credit their new washers with reducing their water use. However, 57% of participants in WashWise reported they would have installed the more efficient washer in the same time frame without the program rebate.
- ✓ 93% of customers that installed their **Conservation Kit** aerators were satisfied with them.
- ✓ Most customers that bought soaker hoses through the **Soaker Hose Promotion** were satisfied with program operation and with hose performance, particularly citing greater convenience in watering with the hoses.
- ✓ Teachers attending the **Water Matters Workshop** gave it very positive ratings.

Effective Promotion

- ✓ Based upon region wide data, evidence of effective promotions is strong:
 - ✓ The 2001 drought messaging campaign resulted in an unprecedented partnership with media and strong changes in customer behavior.
 - ✓ Outreach and media coverage resulted in 91% of customers being aware of the drought alert.
 - ✓ Media coverage of and outreach for the **Toilet Round-Up** events was strong and effective, with almost half (46%) of all customers aware of the events.
 - ✓ At 27% region wide, awareness of the **WashWise** program is notably higher than the proportion of consumers likely to be in the market for a new washing machine at any one point in time (around 7%). Among those who have bought washing machines in the past two years, awareness of the program is 48%.
 - ✓ **Soaker Hose** outreach was also effective: 22% of customers with a yard recalled the promotion five months later. Interest was significantly higher among those who were very interested in gardening (26%) than those who were not (12%), indicating the target audience of active gardeners was being reached.

Insights About New Program Strategies

- ✓ On the positive side, the **Toilet Round-Ups** appealed to customers, had a low overhead; guaranteed that toilets would be qualified; recycled used toilets; and prompted good utility cooperation. But, it was hard to plan for the level of response and 27% of participants reported they definitely would have changed out their toilets in the same time frame without the program rebate.

- ✓ Piggybacking with electrical utilities on a **Conservation Kit** proved to be a low-cost and effective way to distribute faucet aerators – over half of customers receiving the kit said they installed the aerator.
- ✓ The **Soaker Hose Promotion** helped turn a previously strained working relationship between utilities and the green industry into a budding partnership on water and environmental responsibility. In addition, the promotion brought many extra customers into nurseries during the drought alert, when nurseries were concerned about how they would prosper.
- ✓ While the **Soaker Hose Promotion** was the vehicle for delivering brochures on watering and healthy soil, and a fact sheet on how to use soaker hoses, only about half of participants received the brochures due to various problems at the nurseries – e.g., limited space and staff and long lines at the counters due to the promotion and seasonal buying.
 - ✓ Nurseries participating in the **Soaker Hose Promotion** noted that the trend among nurseries and customers is to use more water efficient and environmentally friendly gardening practices, but that much more work needed to be done.

CONCLUSIONS AND RECOMMENDATIONS

Overall, it was a stellar year for the 1% Residential Conservation Program. Outcome and process successes outstripped any negative evaluation findings, and much was learned about new program approaches. Progress was spurred on by the efficacies of the drought alert coupled with program strategies that were able to both foster long-term savings and high gear, short-term drought mitigation. The strong response to the drought alert interrupted the incremental savings approach underlying the 1% Program, but the programmatic strategies appear robust.

On the indoor conservation side, rebate programs produced greater than expected results in terms of participation, gross savings, market transformation, and customer awareness, knowledge, and satisfaction. Promotional efforts were effective and memorable, particularly in support of water saving toilet and washing machine replacements. Free ridership levels (those who would have installed more efficient equipment in the same time frame without the program rebates), especially for WashWise, indicate potential opportunities to reallocate program resources and stretch program dollars further.

Efforts targeted to increasing indoor conservation behaviors were also successful and consistent with behaviors in the long-term conservation plan. Five targeted indoor behaviors contributed significantly to savings: washing full loads of clothes and dishes, flushing the toilet less, taking shorter showers, and using a car wash that recycles water.

Results of customer surveys provided benchmarks for how certain behaviors (e.g., toilet flushing) have changed over a longer time period than just during the drought alert; this evidence suggests that long-term behavior changes are occurring due to specific program efforts and umbrella marketing.

To date, outdoor conservation efforts have focused on finding a path to an overall gardening ethic that achieves a healthy lawn and garden through practices that are both

horticulturally sound and water wise. These gardening approaches have been promoted through a variety of marketing and educational vehicles. Green industry partners report that their customers are becoming more environmentally aware and water conscious, but that there is still substantial need for activities that both instill and reinforce desired behaviors.

The efforts put toward reducing lawn watering have been quite successful, with more and more customers reporting they are watering less or not at all. And, the drought related messages that asked customers to change watering to cooler hours was effective. Progress on other desired outdoor behaviors, however, such as composting, mulching, using low volume watering methods, and checking irrigation systems, show that progress has declined or is static.

The increased collaboration with the green industry to present a unified environmental gardening ethic to consumers is an exceptionally promising note on the outdoor conservation front. While utilities have gained credibility with customers for supplying outdoor water use (and garden) information, the green industry has direct contact and influence over customers, supplying expertise and products. They will be able to help spearhead true market changes and provide ongoing encouragement. Utilities can supply valuable support (e.g., customer research, incentives, co-op advertising) to those on the front line.

Promotional support for 2001 residential conservation programs was particularly strong, with memorable, award winning campaigns (Toilet Round-Ups), and effective drought messaging that leveraged media resources and resulted in almost every residential household being aware of the drought alert. The regional programs targeted to youth education expanded through individual utility efforts, conservation kits were distributed to many students, and new resources were launched or distributed (web site and “Shared Waters” books). Evaluation of these efforts has been very limited.

KEY EVALUATION ISSUES AND QUESTIONS

The following issues and questions stem directly from the conclusions presented above and other findings presented in this report.

1. Program and promotional approaches need to be flexible enough to deal with potential drought conditions. The “1%” brand could not be adapted to the drought alert, since it was anchored in an incremental approach. However, much of the underlying program planning was available to be adapted to drought needs and customer response was excellent. How to best plan for and deal with a drought year in the middle of a long-term, incremental program effort is outside of the scope of this evaluation; however, it is a key topic to keep on the 1% agenda (and the wider resource management agenda).
2. Given the level of WashWise participants that say they would have bought their washers without the rebate, staff should explore whether WashWise should continue in its present form by addressing these interrelated questions:

- ✓ Has market transformation occurred, and, if so, what is the appropriate role for WashWise?
 - ✓ What is driving conservation (rebates vs. promotion vs. rates vs. code)?
 - ✓ Should the program reduce the rebate and concentrate on stronger promotional and retail support services?
 - ✓ How important is it to keep WashWise as a reminder to customers and manufacturers that water savings are an important component of resource efficient washers, after new federal standards (that will take effect in 2007) specify energy efficiency but not water efficiency levels.
3. Code requires low-flow toilets for any toilet replacement. Thus, for multi-family programs including toilet rebates, these questions should be addressed:
- ✓ How likely are multi-family owners to accelerate fixture replacement without a program incentive – i.e., what's the natural rate of replacement and the likely rate of free riders?
 - ✓ Is free ridership likely to vary by low-income and general multi-family sectors?
4. While reduced lawn watering, and changes in watering schedule, have made progress, other water saving landscape behaviors have declined or remained the same. Some program approaches (e.g., landscape audits) have been tried but have not yet proven effective. The Soaker Hose Promotion, which did attract customers and was a great collaborative effort with the green industry, was not aimed at direct savings. Further research is needed to better understand key garden related conservation or sustainable behaviors, the barriers surrounding them, the benefits to customers if they adopt them, and the solutions for motivating a water conscious landscape ethic.
5. Reinforcement of conserving behaviors should be an integral part of conservation programs. Regional survey data have repeatedly shown that behaviors that have been focused on through program channels persist and increase, while those that do not often decline.
6. Evaluation of all aspects of conservation programs should be more integrated into program design and operation. While members of the SWP have long conducted valuable consumer, equipment, and consumption research, this is the first evaluation effort to identify a consistent set of outcome and process indicators across all residential programs and to use multiple information sources to track progress against those indicators. The results of this evaluation illustrate the importance of both outcome and process indicators in measuring progress and in making improvements.

The structure of the 2001 evaluation can be used as starting point for ongoing evaluation efforts. Every program, new or continuing, should have the following evaluation structure in written form:

- ✓ A program logic that lists desired outcome and process indicators of the type used for this evaluation (these did not exist for the 2001 evaluation).
- ✓ A plan for collecting and analyzing evidence of program progress against the indicators, whether this evidence is from program data, consumer research, or consumption analysis. This plan would be similar to the one originally developed for the 2001 evaluation, but it would incorporate the progress indicators and program logic described above. The sources and methods to be used for estimating water savings attributable to program efforts is a particularly important aspect of this plan. For the 2001 evaluation, it was challenging to fit SPU consumption modeling and analysis with other evaluation results.
- ✓ A plan for weaving evaluation results back into program planning.

CHAPTER 1: INTRODUCTION

THE SAVING WATER PARTNERSHIP

This report evaluates 2001 residential programs of the regional 1% Conservation Program (1% Program). It describes what these programs accomplished during 2001, what went well, what can be improved, and what lessons should be kept in mind as future programs are being charted. The report is a collaboration between an outside evaluation consultant (Dethman & Tangora LLC) and Seattle Public Utilities (SPU) evaluation staff.

Seattle Public Utilities and its 25 wholesale water providers fund and implement the 1% Program through the Saving Water Partnership (SWP). At the program launch in 2000, the SWP set, as its overall goal, reducing regional water use by 1% per capita per year for the next 10 years; this equals 18 million gallons per day (MGD) by the end of the decade. These long-term savings equal the projected increase in consumption due to population growth over the same period, so that total water use would be held constant in the regional service area if the savings were achieved.

Residential customers account for over half of the system's total water consumption, and over half of potential water savings are tied to changes in their behavior and equipment (see *Conservation Potential Assessment, SPU, 1998*). Thus, evaluating the effectiveness of 1% residential programs is essential to understanding progress toward overall SWP conservation goals.

EVALUATION CONTEXT

The years 2000 and 2001 served as planning and ramp-up years for the SWP, with a goal of saving 1.3 MGD in 2001. At the start of 2001, the SWP was poised to deliver a variety of residential conservation programs, both new and continuing, through the 1% Program. At the same time, SPU contracted with Dethman & Tangora, to design an evaluation plan (see *Evaluation Plan for 2001 Residential Water Conservation Programs*) for its 2001 residential programs, and to implement that plan over the course of the year. These evaluation activities continue and add to the tradition of conducting research to better understand residential customer response to conservation efforts.

Early in 2001, a drought alert complicated the design and delivery of SWP residential programs as well as the evaluation efforts. Under the Voluntary Phase of the Water Shortage Contingency Plan, customers were asked to voluntarily reduce water use by 10%. The media and public officials paid considerable attention to the drought alert, and various regional surveys showed that over 90% of households were aware of it. Utilities went into "high gear" to amass savings that would mitigate the drought, revising previous 1% Program plans and operation. The public face of the 1% Program changed abruptly, and references to 1% in marketing and outreach were dropped.

Drought alert efforts emphasized short-term water *curtailment* behaviors, rather than the *long-term, incremental conservation* of the 1% Program. Drought efforts focused on changing residential customer behaviors, including shortening shower time, reducing toilet flushes, washing full loads, and reducing outside watering. Since these curtailment behaviors were also identified as long-term SWP water conservation behaviors, the goal during the drought alert was to accelerate their adoption.

When the drought alert ended in September 2001, the consumption data showed that residential customers had indeed reduced their use by about 10%. But, the interweaving of short-term curtailment and long-term conservation initiatives makes it hard to sort out the causes of conservation actions, how the drought alert affected the rate of adoption of those actions, and the likely persistence (permanence) of those actions. Still, this evaluation tries to provide insight into the role of the drought in terms of causes, adoption, and persistence.

REPORT ORGANIZATION

Chapter 2: Evaluation Goals, Methods, and Resources
Chapter 3: 2001 Residential Water Savings
Chapter 4: Indoor Conservation
Chapter 5: Landscape Conservation
Chapter 6: Umbrella Marketing and Messaging
Chapter 7: Youth and Education

CHAPTER 2: EVALUATION GOALS, METHODS AND RESOURCES

2001 RESIDENTIAL EVALUATION GOALS AND INDICATORS

The goal of the 2001 residential evaluation is to assess the operation and impacts, including cost-effectiveness, of the 2001 SWP 1% residential conservation programs. At the program element level, this report will examine how well each residential program element met its intended “progress indicators.” Progress indicators are the appropriate measures for assessing each program element, because they link program intentions and objectives to results – from increased knowledge to permanent savings. If correctly conceived, progress indicators prevent programs from being measured against goals they were never meant to achieve. Rather, they allow this question to be answered:

How well did program objectives match program outcomes?

In each program chapter, we will indicate which progress indicators will be applied to each 1% Program element. We developed the following overall list of indicators through review of program materials and discussions with program managers:

Table 4 Progress Indicators for 2001 1% Residential Conservation Programs

Impact Indicators	Process Indicators
✓ Permanent water savings	✓ Changes in customer knowledge, awareness, attitudes
✓ Cost-effective water savings	✓ Customer satisfaction (includes program delivery as well as equipment)
✓ # of rebates, brochures, participants	✓ Effective promotion (includes education and marketing)
✓ Changes in customer behavior	✓ Insights about new program strategies
✓ Evidence of market transformation	
✓ Curtailment of water use due to the drought alert	



As shown in Table 4, this evaluation addresses both impact and process evaluation topics. Impact evaluations assess the water saving impacts of program elements, and provide

evidence of desired changes in customer behavior, increases in market share for water saving equipment, and meeting rebate or participant goals.

For water savings, estimates of permanent savings from the SWP will be presented, as developed by SPU staff. Where available, the percent of these savings that can be attributed to program rebates (% rebate driven) will be shown. This percentage is calculated based upon an estimate of the proportion of “free-riders” participating in a program; free riders are participants that report they would have very likely taken the same water saving action in the same time frame without the program rebate (or, in some cases, other program help).

Please note: SPU evaluation staff have developed the water savings and cost-effectiveness figures used in this report. The consulting team has worked with staff to accurately incorporate these figures into this report. SPU evaluators used a variety of sources, including consumption records, participation records, customer research, and documented estimates of expected savings on a per fixture or per behavior change, to develop impact figures. More information on these methods is available in Volume 2, under “Consumption Analysis for 2001.”

Process evaluations assess program operation and progress, and non-water savings program effects, such as changes in customer awareness, satisfaction and response. Process evaluations help guide program improvements. Data for process evaluations came from primary research with customers and key staff or contractors as well as secondary sources, such as regional reports and program materials.

METHODS

Each 2001 residential element received a tailored evaluation approach. Details of these individual approaches can be found in the *Evaluation Plan for 2001 Residential Water Conservation Programs, 2001*, included in Volume 2 of this report, but key aspects are reflected here. Along with the *Evaluation Plan*, Volume 2 provides reports and back-up materials for primary research that we developed and conducted throughout the 2001 residential evaluation effort. Table 5 lists the program elements and approaches used to gather information about each residential program element.

Table 5 Evaluation Methods for 2001 SWP Residential 1% Program Elements

	METHODS/APPROACHES				
Program Elements/ Strategies	Primary Research				Other Data Sources
	Regional Survey	Participant Survey	Non-Part Survey	Process Interviews	Impact & Program Data, SPU Modeling etc.
Indoor					
Rebate & promote fixtures; transform markets					
• Toilet Round-Ups	X	X (N=217)	Regional Survey	X	<ul style="list-style-type: none"> • SPU Savings Analysis • Program Data • SoundStats
• WashWise	X	X (N=100)	Regional Survey	X	<ul style="list-style-type: none"> • SPU Savings Analysis • Program Data • Regional Washer Data
• Conservation Kit	X	SCL Survey	SCL Survey	X	<ul style="list-style-type: none"> • SPU Savings Analysis • SCL Evaluation
• Low Income Multi- family	X	X Combined (Fall 2002)		X	<ul style="list-style-type: none"> • SPU Savings Analysis • Program Data
• General Multi-family	X			X	<ul style="list-style-type: none"> • SPU Savings Analysis • Program Data
Promote behaviors:					
<ul style="list-style-type: none"> • Shorten showers • Flush less • Wash full loads • Fix leaks • Use faucet less • Use car wash 	X			X	<ul style="list-style-type: none"> • SPU Savings Analysis
Outdoor — Natural Lawn and Garden					
Promote behaviors:					
<ul style="list-style-type: none"> • Water morn/evening • Use compost • Dethatch lawn • Mulch garden • Adjust auto systems 	X			X	<ul style="list-style-type: none"> • SPU Savings Analysis

	METHODS/APPROACHES				
Program Elements/ Strategies	Primary Research				Other Data Sources
	Regional Survey	Participant Survey	Non-Part Survey	Process Interviews	Impact & Program Data, SPU Modeling etc.
Promote landscape ethic:					
• Nursery Partnerships		X (N=11)		X	• SPU Savings Analysis • Program Data
• Soaker Hose Rebates	X	X (N= 203)		X	
Umbrella Marketing					
• Support Programs • Alleviate Drought	X			X	• SoundStats • Focus Groups
Youth Education					
Classroom • Conservation Kits • WaterSmart Web Page/ Shared Waters books				X	• Program Data
Teachers • Water Matters Workshops				X	• Program Data

The methods for each piece of primary research that the evaluation consultant conducted is briefly described below; please see the evaluation plan or individuals reports (in Volume 2) for further information.

- **2001 Regional Water Conservation Survey** – a 15 minute random sample telephone survey of 1035 residential customers (+/- 3% margin of error at 95% confidence level), from throughout the regional service area, was conducted in November and December 2001. The survey, on of a series begun in 1992, covered attitudinal, behavioral, and program specific topics.
- **Toilet Round-Up Participant Survey** – a 10 minute random sample telephone survey of 217 Round-Up participants (+/-7% margin of error at 95% confidence level) was conducted in October 2001. Data gathered included customer characteristics, sources of program information, knowledge and attitudes about low-flow toilets prior to participating, reasons to participate, free ridership, and program and toilet satisfaction.
- **WashWise Participant Survey** – a 10 minute random sample telephone survey of 111 WashWise participants (+/- 10% margin of error at 95% confidence) was conducted in January 2002. This survey gathered participant characteristics,

reasons to participate, past experience with resource efficient washers, free ridership, program satisfaction, and washer satisfaction.

- ***Soaker Hose Promotion Participant Survey Summary*** – a 10 minute random sample telephone survey of 203 customers (+/-7% margin of error at 95% confidence) who bought soaker hoses through the promotion. Topics included past familiarity and use of soaker hoses, installation rate, benefits and barriers to using the hoses, program operation, information received and read, and buying behavior.
- ***Nursery Partnerships Facilitated Meeting Summary*** – a facilitated meeting and interviews with 11 key nurseries and a landscape association representative assessing the soaker hose effort.
- ***Process Interviews with Program Managers*** – in-person interviews with six SPU conservation program managers and three purveyor representatives. Topics included progress indicators for each program element, strengths and weaknesses, and recommended improvements.

Results of other primary research used in this evaluation but not included in Volume 2 are:

- ***Conservation Kit Evaluation*** – Seattle City Light conducted a mail survey with 629 recipients of the kit (+/- 4% margin of error at 95% confidence) about their use of, and satisfaction with, the water and energy conservation items it contained.
- ***SoundStats*** – This is a monthly survey service that SPU used to track response to the drought alert.

In addition to primary research results in this report, SPU evaluation staff have been supplied with coded and documented data from each of the surveys listed above should they wish to use it for further data analysis.

Key secondary sources used for this report included:

- ***Saving Water Partnership 2001 Annual Report, SPU, 2002.*** This report reviews annual progress of the SWP programs and provides total savings estimates for each sector.
- ***1% Program brochures, flyers, and progress reports, 2001-2002.***
- ***Conservation Potential Assessment, SPU, 1998.*** As stated in the *Annual Report*, the “CPA provides a rigorous analysis of the cost, volume, and reliability of conservation opportunities available within Seattle’s wholesale and direct service areas through 2020.”
- ***SPU spreadsheet of savings estimates, 2002.*** This spreadsheet provides savings estimates for equipment and behavior changes based on survey results and consumption analysis, and provides greater context for savings outside those measured through incentive programs.

- ***Various reports from the Northwest Energy Efficiency Alliance.*** These reports provided regional resource efficient washing machine data and information.
- ***U.S. Census data.*** These data provided household and population statistics.

CHAPTER 3: 2001 RESIDENTIAL WATER SAVINGS

TOTAL SAVINGS

SPU's analysis shows that regional residents reduced their water use (weather adjusted) by about 4.6 MGD in 2001, providing 2.4 MGD in permanent and 2.2 MGD in temporary water savings. The primary focus of this chapter is on the 2.4 MGD in permanent savings, which were driven by a combination of water rates, code requirements, and conservation efforts. At the close of this chapter, temporary savings due to the drought curtailment will be discussed. (Note: All savings estimates are based upon SPU analysis.)

As shown in Figure 1, indoor water savings accounted for about three-quarters of total permanent savings, with the bulk of indoor savings attributable to changes in indoor fixtures. Outdoor behavioral changes accounted for about one-quarter of estimated savings.

Figure 1 2001 Total Permanent Water Savings

(Total residential savings from rates, code, and conservation = 2.36 MGD).

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Figure 2 shows the drivers of permanent savings, with conservation programs accounting for 43% of savings, rates at 36%, and code driven savings at 21%.

Figure 2 Drivers of Total Permanent Savings

(Total residential savings = 2.36 MGD).

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PERMANENT INDOOR SAVINGS

Fixture Savings

Figure 3 shows the proportion of savings, by fixture type, for 2001 fixture change-outs, both due to conservation programs and other drivers. Total estimated fixture savings equal 1.56 MGD, with the bulk of new permanent fixture savings due to toilet change-outs (81%).

Figure 3 2001 Permanent Fixture Savings by Fixture Type

(Total fixture water savings from rates, code and conservation = 1.56 MGD)

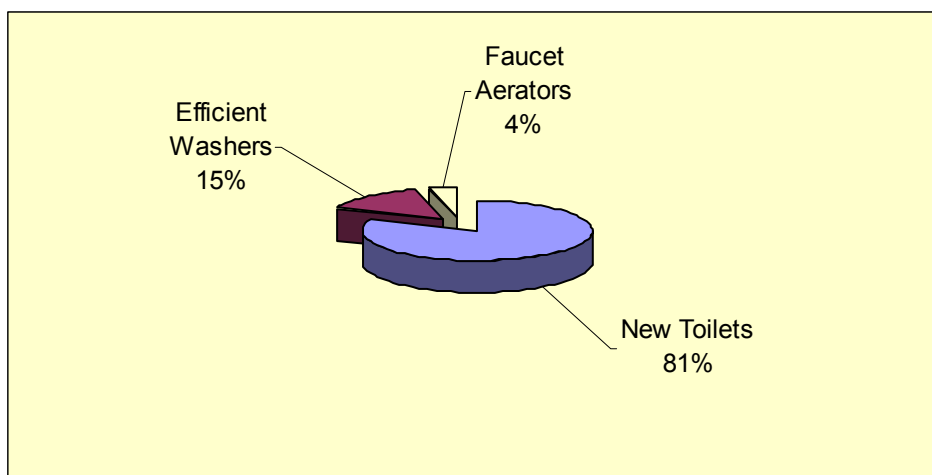


Figure 4 shows the drivers for the 1.66 MGD (gross savings) from fixture change-outs In 2001. This figure shows that 36% of all fixture savings can be attributed to program outreach (13 %) and rebate programs (23%). In addition, code replacements (fixture change-outs where more efficient equipment is installed because codes require it) and rates each account for 32% of the estimated savings.

Figure 4 2001 Drivers for Fixture Savings

(Total fixture water savings = 1.56 MGD)

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* **MERGEFORMAT** *Includes 100,000GPD under rebate savings that may be due to non-rebate aspects of programs such as education and marketing

Behavioral Savings

Figure 5 shows that permanent indoor behavior changes amounted to 250,000 GPD and that these savings are distributed among a number of behaviors. Washing full loads of clothes, flushing less, and reduced shower and faucet use are the largest contributors to behavioral savings.

Figure 5 2001 Permanent Indoor Behavior Savings by Type of Behavior

(Total behavioral savings from rates and conservation = 250,000 GPD)

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Figure 6 shows the drivers for permanent indoor behavior changes, which included SWP program efforts (40%) and customer response to rates (60%).

Figure 6 2001 Drivers for Indoor Behavior Changes

(Total behavioral savings = 250,000 GPD)

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PERMANENT LANDSCAPE SAVINGS

As shown in Figure 7, 550,000 GPD in water savings are attributable to two changes in landscape behaviors: reduced lawn watering and improvements in irrigation systems.

Figure 7 2001 Permanent Landscape Behavior Savings

(Total behavioral savings from rates and conservation = 550,000 GPD)

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Figure 8 shows the drivers for landscape behavior changes in 2001. Program outreach drove almost two-thirds of the savings (64%), while rates drove one-third (36%).

Figure 8 Drivers for 2001 Landscape Behavior Changes

(Total behavioral savings = 550,000 GPD)

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TEMPORARY CURTAILMENT SAVINGS

As Figure 9 shows, water savings due to drought curtailment in 2001 amounted to 2.2 MGD, with 55% of the savings attributable to changes in indoor behavior, and 45% of the savings attributable to changes in outdoor behavior.

Figure 9 2001 Temporary Savings Due to Drought Response

(Total Curtailment Savings = 2.2 MGD)

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Various findings from the Regional Conservation Survey support the strong customer response to the drought alert. Due to the drought alert:

- ✓ 41% of customers reported they increased their full loads of dishes and clothes
- ✓ 32% of customers shortened their showers
- ✓ 32% flushed less last summer
- ✓ 4% went to a car wash that recycled water
- ✓ 62% of those with lawns said they watered less
- ✓ 23% of those with lawns changed their lawn watering hours to early or late

CHAPTER 4: INDOOR CONSERVATION

SECTOR OVERVIEW

Residential indoor activities deliver water conservation services to both single and multi-family audiences. These services use financial incentives, technical assistance, and education to achieve savings. Methods used to promote equipment and behavior changes included print and broadcast advertising, targeted outreach through direct mail, point-of-purchase promotions, presentations, and events.

According to SPU's *2001 SWP Annual Report*, the 2001 savings goal for residential indoor services was 400,000 gallons per day (GPD) in new permanent water savings. About three-quarters of these savings were to be achieved through new and ongoing rebate programs or free fixtures; the remaining savings were to be gained through outreach that pinpointed equipment change-outs and specific long-term behavior changes. Desired outcomes ranged from installing more efficient toilets, washers, and faucet aerators, to taking shorter showers and flushing less.

The residential indoor sector activities are summarized in the table below. Further detail is provided in the sections that follow.

Table 6 Summary of Residential Indoor Sector Activities for 2001

Program Elements/Strategies	Desired Outcomes	Targets
Rebate and promote fixtures; transform markets:		
Toilet Round-Ups (2 rebate events)	<ul style="list-style-type: none"> • Replace toilets • Change behaviors 	<ul style="list-style-type: none"> • Single Family households
WashWise LaundryWise (through City Light)	<ul style="list-style-type: none"> • Replace washing machines 	<ul style="list-style-type: none"> • Single Family households • Multi-family owners
Conservation Kit (w/ City Light & Puget Sound Energy)	<ul style="list-style-type: none"> • Replace faucet aerators • Change behaviors 	<ul style="list-style-type: none"> • Single & Multi family households
Low Income Multi-family Program	<ul style="list-style-type: none"> • Replace toilets/fixtures • Change behaviors 	<ul style="list-style-type: none"> • Low-income multi-family housing administrators, tenants
General Multi-family Program	<ul style="list-style-type: none"> • Replace toilets/fixtures • Change behaviors 	<ul style="list-style-type: none"> • Multi-family owners and property managers
Promote water saving behaviors:		
Marketing and Promotion Conservation Kit	<ul style="list-style-type: none"> • Change indoor behaviors (flush less, shorten showers and faucet use, wash full loads, fix leaks, use recycled car wash) 	<ul style="list-style-type: none"> • Single/Multi-family households

PROGRAM ELEMENTS

Toilet Round-Ups

The Toilet Round-Ups offered a \$40 rebate to customers for changing their old high-use toilets to new low flow toilets. Customers brought their old toilets to one of two collection events (in July and August), presented a receipt for a new 1.6-gallon-per-flush toilet, and received a rebate.

WashWise and LaundryWise

WashWise is an ongoing program to encourage buying of resource efficient washing machines. Over the years WashWise has used advertising, promotions, public relations, retailer involvement, and a buyer rebate (for 2001, \$100) to encourage the purchase of qualified resource efficient machines. Buyers of qualified machines, who are also customers of utilities in the SWP, receive rebate forms at the time of purchase, send the completed forms with the sales receipt to SPU, and receive the rebate by mail. The \$100 rebate is shared by the SPU and Seattle City Light within City Light's service territory; the SWP covers the entire rebate amount outside of this area.

Similarly, LaundryWise, administered by Seattle City Light, but also supported by SPU, provides rebates when resource efficient machines are installed in multi-family dwellings with common-area laundries. Savings estimates from LaundryWise are included in this report but no other evaluative information has been gathered.

Conservation Kit

SWP coordinated with Seattle City Light and Puget Sound Energy to promote and distribute conservation kits to customers. Although the kits were largely to provide customers with ways to mitigate the effects of the west coast energy crisis in the winter of 2000-2001, they also included water conservation items from SPU, including a low-flow faucet aerator, a flow-rate test bag, and educational materials.

Multi-family

In the fall of 2001, SPU initiated a multi-family toilet replacement program and a low income multi-family toilet and fixture replacement program. Financial assistance is available to housing authorities, owners, and managers of multi-family buildings to replace toilets and/or fixtures. In addition, water saving information is available for tenants through the programs. The low-income program is offered to low-income housing authorities while the general multi-family program is targeted to owners and property managers.

Although participant survey efforts were originally planned for these programs, the late launch date of the programs resulted in delaying these surveys until more customers had participated, likely until fall of 2002. In addition, further research is being conducted to

better understand and target this market effectively. Impact data and limited process evaluation information are provided in this report.

Indoor Residential Behaviors

The regional water conservation website, savingwater.org, the Conservation and Environment pages on the SPU website, the regional conservation hotline, printed materials including brochures and fact sheets, television and radio advertising; and tables at festivals and events promoted both programs with incentives and behavior changes. According to the *2001 Annual Report*, “many of these materials were modified for promotion with water shortage messages and outreach.” The following indoor behavior changes were addressed during 2001, with some being particularly emphasized during the drought alert, as noted:

- Flush toilet less (drought emphasis)
- Reduce shower time (drought emphasis)
- Wash full loads of clothes and dishes (drought emphasis)
- Use car wash with recycled water (drought emphasis)
- Detect and fix toilet leaks
- Reduce faucet use
- Fix faucet leaks

Drought information efforts attempted to accelerate adoption of some water conservation program behaviors by specifically asking customers to flush the toilet one less time per day, to reduce shower time by one minute, to wash more full loads of dishes and clothes, and to use car washes that recycle water.

PROGRESS INDICATORS

Using the progress indicators presented in the introduction to this report, Table 7 summarizes which indicators will be used in this report to evaluate each program element. These indicators, while reflected in program materials and through discussions with staff, may or may not be formally integrated into program plans. Please note that in some cases (e.g., LaundryWise) evaluation information was not gathered, or may not yet be available (e.g., Multi-family), to assess all program indicators.

Table 7 Progress Indicators Used For Residential 1% Indoor Elements

	PROGRAM STRATEGIES				
	Toilet Roundup	WashWise LaundryWise	Conservation Kit	Multi-Family	Indoor Behaviors
Impact Indicators					
✓ Permanent water savings	X	X	X	X	X
✓ Cost-effective water savings	X	X	X	X	X
✓ Changes in customer behavior	X	X	X	X	X
✓ Changes in market share		X			
✓ Number of rebates or participants	X	X	X		
Process Indicators					
✓ Changes in knowledge, awareness, attitudes	X	X		X	
✓ Customer satisfaction	X	X	X	X	
✓ Effective promotion (includes education and marketing)	X	X			
✓ Insights about a new program strategy	X		X		

INDOOR PROGRAM SAVINGS

Table 8 Impact Indicators

✓ Permanent water savings
○ fixture rebates
○ fixture promotion
○ indoor behaviors
✓ Cost-effective water savings
✓ Changes in customer behavior
✓ Increased market share
✓ Number of rebates or participants

Overall, the impact analysis shows that residential indoor program efforts:

- ✓ Met and exceeded their 2001 goals for permanent savings
- ✓ Caused or accelerated fixture installations and purchases in many but not all cases
- ✓ Met their rebate and participation requirements where those were specified
- ✓ Were cost-effective.

Figure 10 shows that the sources of these new savings included rebated fixtures yielding 360,000 GPD, fixture promotions and market transformation efforts yielding 200,000 GPD, and outreach and education activities yielding 100,000 GPD.

Figure 10 Sources for Programmatic Indoor Water Savings

(Total Program Savings = 660,000 GPD)

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*Includes 100,000GPD under rebate savings that may be due to non-rebate aspects of programs such as education or marketing

As shown in Table 9 below, residential indoor conservation programs produced an estimated 660,000 GPD in new long-term savings – exceeding the 400,000 GPD goal by almost 40%. Achieving this level of savings contributed to short-term needs for drought response and surpassed savings targets for the long-term 1% program. These “excess” savings were due to the drought alert; similar response to the same program efforts would not be expected in non-drought alert years.

The levelized costs for each strategy incorporate net present value of fixture costs and an approximate allocation of program costs for administration, promotion and technical assistance. Levelized costs should not exceed \$1.89/ccf to be cost-effective relative to future supply opportunities.

Table 9 2001 Residential Indoor Program Savings

Strategy	Desired Outcomes	Goal GPD*	Estimated GPD*	Levelized Cost*/ccf
Provide Fixture Rebates	Accelerate use of efficient washers (WashWise/LaundryWise), toilets (Toilet Round-Ups), and faucet aerators (Conservation Kits)	300,000	360,000	\$1.10
Promote fixtures and transform markets	Accelerate use of efficient fixtures without rebates; transform fixture markets.	50,000	200,000	\$0.28
Promote water saving behaviors	Accelerate and maintain indoor conservation behaviors	50,000	100,000	\$0.89
Total GPD		400,000	660,000	\$0.82
*SPU provided GPD goals, savings, and levelized costs. Includes 100,000GPD under rebate savings that may be due to non-rebate aspects of programs such as education and marketing				

PROGRAM INDUCED FIXTURE SAVINGS

Rebate Driven Fixture Savings

Table 10 shows how well program targets for fixtures met the actual number of fixtures rebated; the level of gross permanent savings achieved; the level of rebate driven savings; and the net savings once non-rebate driven savings are taken into account. The table shows that in each case where targets were set for the number of fixtures that would be fostered by program activities, the results exceeded those targets, often substantially. For instance, while the target set for toilet replacements through the **Toilet Round-Ups** was 2,000, the number of fixtures rebated through that program was almost 5,000.

Table 10 Targets and Savings for Rebated Fixtures in 2001

Rebated Fixtures 2001 Target = 300,000 GPD	Targets for Fixture Rebates	Actual Fixture Rebates	Gross GPD*	% Rebate Driven	Net GPD
Single Family Toilets (Toilet Round-Ups)	2,000	4,892	111,300	73%**	81,200
Multi-family Toilets	Not Set	100	2,400	N/A	2,400
Low Income Toilets	Not Set	810	28,000	N/A	28,000
Free faucet aerators (Conservation Kit)	75,000	100,000	100,500	N/A	100,500
Washing Machines (WashWise)	8,000	8,275	115,600	43%*	49,700
Coin Operated Washers (LaundryWise)	Not Set	96	2,000	N/A	2,000
Total Savings Achieved			359,800		263,800

The column showing the proportion of rebate driven savings is based upon participant self-reports, gathered through surveys, of whether or not the same equipment would have installed in the same time frame without the program rebate. Only equipment that participants say they definitely would have bought and installed without the program rebate was counted as non-rebate driven savings. (Please note, other aspects of the program may have influenced the buying decision. In WashWise, for instance, retailers are very involved with promotion resource efficient washers.)

For the **Toilet Round-Ups**, 73% of the 320 low-flow toilets purchased and installed by the sample of 139 surveyed participants, and then rebated through the program, would likely not have been installed in the same time frame without the rebate. Thus, the rebate accelerated installation in the large majority of cases.

For the **WashWise** program, 43% of the sample of 111 surveyed participants reported that they would not have been likely to buy their washers without the program rebate. In a related question, 60% of participants reported they would have been “very likely” to buy their washers if the rebate had been cut in half to \$50. Finally, in the regional survey, 55 respondents reported they had bought a resource efficient washer and applied for a **WashWise** rebate; of these, 33% of this group said they would not have bought their washers without the rebate. Thus, for **WashWise**, the rebate accelerated less than the majority of cases.

Taken together, the non-rebate driven savings are about 27% of gross GPD savings. If gross savings due to rebates are reduced by 27%, the net savings of 263,800 GPD fall just below the 2001 target of 300,000 GPD. In the sections that follow, findings will be presented that show the influence of these rebate programs in creating behavior savings and non-rebated fixture savings.

Promotion Driven Fixture Savings

Table 9 shows an estimated 200,000 GPD due to fixture replacements that did not receive rebates but that were influenced by utility promotions and market transformation efforts. The following data provide evidence of the water saving impacts of these activities in terms of fixture replacements and marketplace changes.

Evidence of Accelerated Fixture Change-Outs

- ✓ Based on the regional surveys (1999 and 2001), it appears toilet replacement has accelerated in the past two years. On average, the replacement rate between 1993 and 1999 was about 4% a year; between 1999 and 2001 it was about 9% a year. The high awareness of the **Toilet Round-Ups** suggests many consumers are paying attention to how much water their toilets may be consuming. And, among those very likely to replace a toilet in the next two years, one-quarter said that saving water is a strong motivator.

- ✓ Among those that received a **Conservation Kit** (according to results of a Seattle City Light survey of participants):
 - 20% used the flow-rate bag to measure water flow from their showerhead. Of those using the bag, 17% determined their showerhead was not efficient and about half (47%) of this small group reported they changed their showerheads due to test results. (Note: Respondents to the regional survey reported higher shower head installation and flow bag use rates.)

Evidence of Market Change

- ✓ According to various sources (including; @ *Home With Energy Smart Products Newsletter*, February 2002 and *Draft Energy Star Home Products Program Initial Assessment Of Market Baseline & Participant Demographic Characteristics*, March 2002, both from the Northwest Energy Efficiency Alliance; SPU's *WashWise Program Results, May 1997–May 2001*; and the program manager) the market share of resource efficient washers in the SWP territory is likely between 25-30% for 2001, compared to a market share of about 2% at the program's inception in 1997. The @Home Newsletter also states that sales in the Pacific Northwest of qualified washers are growing at twice the rate of the national average.
- ✓ The number of rebates and the market share has increased each year the program has operated. Regional data shows that in places where utility rebates and other incentives have been available, sales of resource efficient washers have been stronger than in areas where they have not been available (p.13, *ENERGY STAR® Resource-Efficient Clothes Washer Program[ES-RECWP] MPER No. 5, June 2001*, Northwest Energy Efficiency Alliance).
- ✓ According to the regional survey, about 20% of customers bought a new washer between 1999 and 2001. Of these customers, 61% say they bought resource efficient washers, and 43% of that group reported they applied for a WashWise rebate. If only those customers reporting they received a rebate are counted as buyers of qualified machines (43% of 61%), the market share would equal 26% of new washers, corroborating the 25-30% share asserted above.
- ✓ Given a program design that provides marketing and coordination with retail outlets, it is likely that **WashWise** influences purchases of resource efficient washers outside of the program. The same draft analysis from the Northwest Energy Efficiency Alliance cited above estimated that about 57,000 resource efficient washers were sold in Washington in 2000. Prorated by population, this would mean that about 16,500 of these washers were sold in King County, or double the number of WashWise rebates paid out in 2000.
- ✓ Two major goals of the **WashWise** program have been, or will soon be met: (1) to increase market share, and (2) to urge a national standard mandating more efficient washers. New, more stringent washing machine energy (but not water) standards go into effect in 2004. (Note: The focus on energy could cause water efficiency to decrease over time.)

PROGRAM INDUCED BEHAVIORAL SAVINGS

This section discusses impacts resulting from more efficient water consuming behaviors, including changes in toilet flushing, faucet use, showering, washing full loads of dishes and clothes, using a car wash that recycles water, and fixing leaks.

Table 11 gives estimates of the proportions of residential customers that made various indoor water saving behavior changes, both overall and due to the drought; figures are based upon responses to the 2001 regional survey. For behaviors targeted during the drought alert, respondents were first asked if they changed the behavior in 2001 and then if the change were due to the drought. For those behaviors, two figures are given (columns 1 and 2). For behaviors not specifically targeted by the drought, questions asked for behavior change over the past two years. The two-year percentages were then reduced by one-third (with the assumption that people took more water saving actions during the drought year).

Table 11 also shows an estimate of the proportion of customers that would still be engaged in these behaviors after one year (persistence). The persistence level is the percent of survey respondents that said they changed their behavior for reasons other than the drought (assumed to be permanent changes) plus the proportion of respondents that said they would persist with the change even though they changed due to the drought alert.

For some, such as reduced faucet use, drop off is significant (52% to 26%), while for others, such as washing full loads, behaviors remain intact or even increased compared to drought induced behavior only. Erosion of about 400,000 GPD savings after the first year, based on the regional survey results, is similar to the level of erosion predicted by consumption analysis – 1.2 million GPD over three years.

Table 11 All Indoor Behavioral Savings in 2001

INDOOR BEHAVIOR	% CHANGE OVERALL IN 2001	% CHANGE DUE TO DROUGHT	% PERSISTING AFTER 1 YEAR
Reduced Faucet Use	*52%	N/A	26%
Increased Full Loads of Clothes	47%	41%	42%
Increased Full Loads of Dishes	47%	41%	42%
Flushed Toilet Less	46%	32%	36%
Took Shorter Showers	43%	32%	34%
Used Recycling Car Wash	12%	4%	8%
Fixed Toilet Leaks	*11%	N/A	8%
Fixed Faucet Leaks	*22%	N/A	16%
*These percentages reflect two-thirds of the change reported over the last two years. These behaviors were not targeted by the drought.			

Other Evidence of Behavior Change

- ✓ According to the 1999 and 2001 regional conservation survey results:

- Toilet flushing with every use has substantially declined in the past two years – from 60% in 1999 to 50% in 2001. This may be evidence of “behavioral transformation.”
- ✓ Among **Toilet Round-Up** participants:
 - 28% said they took other water saving steps due to participating.
 - Flushing remained about the same: 19% reported they flush less with their new toilet, but this was balanced by the 17% that say they flush it more.
- ✓ Among **WashWise** participants:
 - 26% said they took other steps to save water due to participating.
 - While most reported they do the same number of loads (57%), 24% said they wash fewer loads with their new washer, and 16% said they wash more loads. (Note: Even washing more loads will most likely result in lower water use given the technology of the resource efficient washers.)
 - The resource efficient washers also seemed to prompt more full loads: 47% reported they always did full loads with their old washers compared to 52% always doing full loads with their new washers.

INDOOR PROCESS EVALUATION FINDINGS

Toilet Round-Ups

Table 12 Toilet Round-Up Process Indicators

✓	Changes in customer knowledge, awareness, attitudes
✓	Customer satisfaction
✓	Effective promotion
✓	<i>Insights about a new program strategy</i>

Summary of Findings

In general, based upon data from the Participant Survey, the Regional Survey, and interviews with staff, the two Toilet Round-Up events very successfully met most of the process indicators listed above. While most participants had some familiarity with low-flow toilets, many found out more through the program’s information efforts and the process of buying, installing, and returning the old toilet. Many also overcame their misgivings about toilet performance. Program outreach snared a wide general awareness and media coverage was strong.

Customer satisfaction was challenged because of the difficulties posed by unanticipated crowds (lines, waits, confusion); still most customers (if not the staff) would do it again. The program did test a new delivery mechanism, but the results, according to program staff, do not recommend it as a continued strategy due to the difficulty of predicting the

number of people who would attend a rebate event and its potential for free ridership. In addition, since low-flow toilets are federally mandated, homeowners (and others) will continue to replace them on their own (between 5-10% per year, according to the regional survey.)

More specific evidence about the indicators follows, and even more detail can be found in the Volume 2 reports and data.

Evidence of Participant Knowledge, Awareness and Attitude Changes

- ✓ Forty-two percent of participants were only somewhat aware of low-flow toilets before the event, and 19% said they were not at all familiar. While change was not measured, the program process ensures that knowledge and awareness would change.
- ✓ Although 40% of participants were concerned they'd have to flush a low-flow toilet more than once per use, and a third were concerned it would clog up more often, the program can receive at least some credit for helping them overcome these reservations.
- ✓ While the need to replace a toilet was the most frequent reason to participate (59%), environmental reasons (including recycling the toilet, saving water, and saving fish) and money reasons were also important factors.

Evidence of Effective Promotion

- ✓ At the regional level, the promotion was memorable to many who didn't participate. Almost half (46%) of respondents to the regional survey reported being aware of the Toilet Round-Ups, long after the events were over.
- ✓ Program staff report the Toilet Round-Ups got "good press." Promotion of the event received a Totem Award, Special Events, Non-Profit, from the Puget Sound Chapter of the Public Relations Society of America.
- ✓ Participants found out about the Round-Ups through a variety of program sponsored methods, including newspaper articles and TV news coverage, point of purchase promotion, direct mail, newspaper ads, and bill inserts. Television and radio ads, however, did not generate much attention.

Evidence of Customer Satisfaction

- ✓ Half of participants rated the clarity of the program rules as excellent, and another 42% gave them a good rating.
- ✓ Long lines, waiting, and traffic jams created inconveniences on the day of the events; this resulted in 44% of participants giving fair or poor ratings to the ease and convenience of participating on the day of the event. Still, 86% said it was "worth the effort and that they would recommend it to others."
- ✓ The vast majority of participants (92%) say they would recommend their new toilet

to a friend (also evidence of attitudinal change).

Insights About a New Program Strategy

- ✓ Program staff gave mixed reviews about this delivery strategy. Overall, it appeared to be “pretty good as a one time thing,” but probably not worth doing again.
- ✓ On the positive side, the strategy guaranteed that the program would have fairly low overhead; that all toilets would be qualified; that toilets would be recycled; that it was hard to “abuse” the program in terms of not really changing out your toilet; that there was good media attention; and that there was good cooperation among utilities.
- ✓ On the negative side, it was hard to predict the level of response (hence the crowd and flow problems); free ridership could not be controlled (judged at 27%); and it created long days and some heartburn for those delivering it.

WashWise

Table 13 WashWise Process Indicators

✓	Changes in customer knowledge, awareness, attitudes and effective promotion
✓	Customer satisfaction

Summary of Findings

WashWise is a well-oiled machine, effectively promoted and operated. It continues to change customer knowledge, awareness, and attitudes. Customers are well satisfied with the program and with the resource efficient washing machines they purchase with the help of the program incentive. Participant and regional surveys, as well as program materials, supply the data in the following sections.

Evidence of Knowledge, Awareness, and Attitude Changes and Effective Promotion

- ✓ At the regional level:
 - ✓ Awareness of resource efficient washers has risen from 53% to 77% between 1999 and 2001. (Notably, all consumers may not have an accurate definition of these washers – i.e., they may believe most washers are resource efficient.)
 - ✓ Awareness of the **WashWise** program (27%) is notably higher than the proportion of consumers likely to be in the market for a new washing machine at any one point in time. (Washers have an average life of 14 year, so the average replacement rate would be 7% of households each year.) Among those who have bought washing machines in the past two years, awareness of the program is significantly higher -- 48%.

- ✓ Based on regional survey results, reliance on utilities for information about appliances rose from 0% to 15% between 1999 and 2001.
- ✓ Among program participants:
 - ✓ Program materials and experience, by inference, increased participant knowledge and helped change customer attitudes. Only 27% of WashWise participants reported being “very familiar” with resource efficient clothes washers prior to participating, with 32% saying they were somewhat familiar and 25% saying they were not familiar. Less than a quarter had owned a resource efficient washer before, and a large majority had not used one before.
 - ✓ While participants rated cleaning ability and reliability the most important factors in their buying decisions, saving on water and sewer bills and buying an environmentally friendly washer were also very important to the majority. Over a third said that responding to the drought alert was very important in their decision, and 49% said that saving water for fish was very important in their choice of a resource efficient washer.

Evidence of Customer Satisfaction

- ✓ Participants gave high ratings for the clarity of program rules, the ease of participating, the helpfulness of the sales staff, and the timeliness of receiving their rebates.
- ✓ Almost all participants (83% very satisfied) are happy with the performance of their new washers, and 81% report the resource efficient washer works better than the washer it replaced. (Notably, 57% had old machines that were not working satisfactorily.)
- ✓ Almost half of participants (46%) credit their new washers with reducing their water use, and 36% feel their energy use has been reduced.
- ✓ Most WashWise participants wash three or more loads of clothes per week, indicating that most are likely to notice reductions in the water and energy use.

Conservation Kit

Table 14 Conservation Kit Process Indicators

✓ Customer satisfaction
✓ Insights about new program strategy

Summary of Findings

Piggybacking on electric utility efforts to distribute energy saving devices to mitigate the energy crisis proved to be an effective, low-cost program mechanism for the SWP that satisfied many customers. Evidence of this program's effectiveness follows, and is based upon SWP program manager insights and Seattle City Light's participant survey.

Evidence of Customer Satisfaction

- ✓ The majority of those installing the aerators were very satisfied (70%) with its performance, and another 23% were somewhat satisfied.

Insights About a New Program Strategy

- ✓ According to program managers, collaboration across utilities on the kit went well. And, for the water utilities, piggybacking with the electric utility effort was simple and low-cost. The major snag (that took a fair amount of work) was that the aerators had to be bid out under severe time pressure (due to meeting the needs of the energy crisis).

Multi-Family

Table 15 Multi-Family Process Indicators

➤ Changes in customer knowledge, awareness, attitudes
➤ Customer satisfaction

For both the general and low-income multi-family programs (initiated in fall of 2001), process evaluation information is minimal. The programs have begun and further research is being done with target audiences. Surveys with participants are planned for fall 2002.

Residential Indoor Behaviors

Table 16 Indoor Behaviors Process Indicators

✓ Effective promotion

Summary of Findings

Residential indoor behaviors were the focus of both curtailment and long-term conservation efforts. Although it is difficult to sort out specific causes and effects, customers responded strongly to the curtailment messages, with about 40% reducing their use in one or more of

the four areas emphasized (less flushing and showering, doing more full loads, and using a car wash). However, small proportions of customers also reported that they reduced their water use in these ways for reasons other than the drought alert; if this is accurate, their behaviors are more likely to be permanent. For behavior changes not emphasized as strongly in drought alert messages (faucet use and leak detection), gains were also made.

Evidence of Effective Promotion

- ✓ Several regional surveys support the fact that awareness of the summer 2001 drought alert was widespread (91% of regional survey respondents, for instance).
- ✓ Program managers report that media coverage and cooperation during the drought alert was strong and concentrated upon encouraging citizens to make the indoor behavior changes that were the focus of curtailment efforts.

CHAPTER 5: LANDSCAPE CONSERVATION

SECTOR OVERVIEW

SWP 1% residential landscape activities target water used outdoors in residential single family yards and gardens. To reach these households, and the green industry that serves them, the SWP emphasizes an integrated resource approach (i.e., managing water supply, surface water, and solid waste responsibly) under the umbrella term of The Natural Lawn and Garden or, for short, “The Naturals.”

According to the program managers, The Naturals are just “good gardening practices” like adding organic amendments to the soil or using the right plant in the right place. The intent of these practices is to create beautiful, natural landscapes that make the best use of resources, reduce water and energy use, and protect the environment, including water for fish. The long-term goal of this sector is to help build a new ethic (or restore an old one) among customers and the green industry.

The *2001 SWP Annual Report* indicates that landscape conservation was expected to reduce long-term water use by about 200,000 GPD in 2001. Notably, the 2001 program year drought alert offered unique opportunities to partner with nurseries, other members of the green industry, and consumers to keep landscape businesses financially solvent and individual consumer gardens healthy. The program elements, desired outcomes, and target audiences for the landscape sector are detailed in Table 17 below.

Table 17 Summary of Residential Landscape Sector Activities for 2001

Residential Landscape Sector – Natural Lawn And Garden Program		
Program Elements/Strategies	Desired Outcomes	Targets
Promote natural gardening practices: <ul style="list-style-type: none"> ➤ Soaker Hose Rebate ➤ Naturals Brochures ➤ Naturals Promotion 	<ul style="list-style-type: none"> ➤ Raised awareness & use of Natural Lawn and Garden materials and practices 	<ul style="list-style-type: none"> ➤ Single Family households ➤ Nurseries/Green Industry
Involve green industry: <ul style="list-style-type: none"> ➤ Soaker Hose Rebate ➤ Naturals Promotion ➤ Develop new “Naturals” brochures with industry input ➤ Distribute new Naturals brochures at nurseries ➤ Support nursery classes 	<ul style="list-style-type: none"> ➤ Nursery/Green Industry Partnerships to promote the Naturals 	<ul style="list-style-type: none"> ➤ Nurseries, Landscape Associations
Promote water savings behaviors: <ul style="list-style-type: none"> ➤ Soaker Hose Rebate ➤ Naturals Promotion ➤ Classes w/water topics ➤ Distribute Naturals Brochures 	Accelerate behavior changes, such as <ul style="list-style-type: none"> ➤ Early morning/evening watering ➤ Use of compost ➤ Checking of lawn for thatch/thinning ➤ Mulching of garden areas ➤ Automatic irrigation system efficiency ➤ Low volume watering methods 	<ul style="list-style-type: none"> ➤ Single family households ➤ Landscape professionals

2001 NATURAL LAWN AND GARDEN PROGRAM

The goals of the 2001 Natural Lawn and Garden (the Naturals) Program were to:

- ✓ Raise awareness of Naturals practices
- ✓ Promote the Naturals practices
- ✓ Help change customer behaviors encompassed by the Naturals

Raise Awareness of and Promote the Naturals

The following strategies were used to pursue the first two goals of the 2001 Natural Lawn and Garden program:

- **Retail Partnerships with Nurseries.** The SWP continued to develop partnerships with local nurseries by arranging to develop and distribute the “Naturals” brochures (a set of gardening brochures to encourage wise water use and environmental responsibility while gardening) through them; by supporting classes with experts at their places of business; and by collaborating on the Soaker Hose Rebate.
- **Soaker Hose Rebates.** Rebates on soaker hoses were offered in conjunction with nursery discounts on soaker hoses. They were intended as a “hook” to encourage interest and use in Natural Lawn and Garden practices rather than to produce water savings. Saving water with these hoses depends upon how they are used (although they are unlikely to increase water use). Both radio and print advertising supported the soaker hose promotion.
- **Radio Promotion.** Radio promotions directly targeted more avid gardening customers, using packages that included ads, promotion of classes taught by radio personalities, product promotions, website connections, and underwriting.
- **Print Advertising.** Print advertising were targeted to a more general gardening audience less likely to listen to radio shows; they included “advertorials” and regular ads to influence behavior.
- **Ongoing Media Relations.** SPU and Purveyors worked with garden writers to gain their support and coverage for “Naturals” messages and products.

Change Outdoor Behaviors

Information through the conservation website, brochures, seminars, and advertising and promotions were aimed at making residential single family customers more aware of and more likely to take a variety of steps to save water. Some of these steps included:

- Watering early in the morning and in the evening (not from 10 a.m.--7 p.m.).
- Checking lawn for thinning/thatch
- Adjusting automatic water systems to ensure efficiency
- Adding compost to garden beds
- Mulching garden areas

While all of these behaviors were targeted through the Naturals campaign, instance, watering during early morning and evening hours received a specific emphasis during the drought alert.

PROGRAM INDUCED OUTDOOR SAVINGS

Table 18 Outdoor Impact Indicators

✓	Permanent behavioral water savings
✓	Cost-effective water savings
✓	Changes in customer behavior
✓	Increased market share
✓	Curtailment of water use due to drought alert
✓	Number of rebates, participants, brochures

The impact analysis shows that residential landscape efforts met and exceeded the 2001 permanent savings goals, and that the savings were cost-effective. Data show that the decrease was largely due to changes in lawn watering habits that were targeted by drought and non-drought messages and activities.

As shown in Table 19, landscape initiatives produced an estimated 350,000 GPD in long-term conservation savings, well beyond the 200,000 GPD target. The Annual Report goes on to say that most savings occurring during peak season when they are needed the most and that an “additional 500,000 GPD in temporary savings were achieved through curtailment measures.” As with the indoor savings, customers demonstrated their strong, positive response to drought situation. Once again these “excess” savings create uncertainty because persistence of savings is difficult to gauge, and gains in subsequent years are unlikely to be as substantial given the same level of effort.

Table 19 2001 Residential Landscape Behavioral Savings

Strategy	Desired Outcomes	Goal GPD	Estimated GPD*	Levelized Cost/ccf
Promote behavioral changes	Accelerate and maintain permanent outdoor water conservation behaviors	200,000	350,000	\$0.71
Total GPD		200,000	350,000	\$0.71

Table 20 shows the targets set for contact with customers through distribution of the Naturals' brochures, soaker hose rebates, and participants at nursery classes that the SWP supported. The brochure distribution of 32,000 slightly exceeded the target of 30,000, and class attendance was 160 (with no target set). However, soaker hose purchases were about half of the target set (4,065 of 8,000).

Table 20 Targets and Performance for Customer Outreach Measures

Outreach Measures	Targets	Performance
Naturals Guides Distributed	30,000	32,000
Soaker Hose Rebates	8,000	4,065
Nursery Class Participants	Not set	160

Evidence of Other Landscape Behavior Changes

The Regional Survey showed other changes in landscape behaviors that could be affecting water use. As shown in Table 21 below, two behaviors have significantly changed from 1999 to 2001: lawn watering is less frequent and use of compost has declined. On the up side, the proportion of customers watering their lawns once a month or less has risen from 30% to 52%. While about 12% of this rise was drought related, 40% indicated they would keep their lawn watering at this level in the future. On the down side, significantly fewer customers (66% down to 51%) reported that they're adding compost to their gardens (to help them retain more water, among other benefits).

The remaining behaviors that have been tracked were stable between 1999 and 2001, with about a quarter using low-volume watering methods; just over half reporting they put mulch on their planting beds and adjust their sprinkling systems for weather; and about three-quarters reporting they have their automatic irrigation systems inspected. About half of 2001 respondents said they check their lawns for thinning or thatching, and a quarter say they have removed some lawn in the last two years, but these two behaviors have no baseline comparison.

Table 21 Evidence of Change for Outdoor Targeted Behaviors

(based on 1999 and 2001 Regional Conservation Survey Results)

TARGETED BEHAVIORS	% ACTING IN 1999	% ACTING IN 2001
Water lawn once a month or less	30	52
Add compost	66	51
Put mulch on beds	54	58
Use low volume watering methods	29	26
Adjust automatic system for temperature	59	56
Inspect automatic system	74	75
Check lawn for thatch/thinning	NA	48
Removed some lawn in past 2 years	NA	25

PROCESS EVALUATION FINDINGS

Natural Lawn and Garden Efforts

Table 22 Natural Garden Process Indicators

✓ Changes in customer/audience knowledge, awareness, attitudes
✓ Customer/audience satisfaction
✓ Effective promotion

Summary of Findings

Generally positive outcomes emerged from Natural Lawn and Garden landscape efforts during 2001, particularly through the Soaker Hose Rebate. This promotional “hook” produced strong participation, customer satisfaction, and implementation among the target audience of interested gardeners. Even though there were some problems with distributing the “Naturals” brochures at the nurseries, the customers that received the materials say they read them and nurseries say they like them. One potential problem could be that most (81%) participants expect the soaker hoses will save them water and money, while there is no certainty that they will unless they use them correctly.

The Soaker Hose Rebate promotion also united nurseries and utilities in a successful effort to mitigate the effects of the drought alert. This program appears to have changed the tenor of working relationships between utilities and nurseries and other members of the “green” industry, and bodes well for future partnerships (e.g., the second soaker hose promotion is currently underway).

The utility efforts to reduce lawn watering during the 2001 drought alert also appear to have been very successful, with customers watering their lawns less, at least on a

temporary basis. However, data also suggest that the importance of having a green lawn has not diminished, particularly in the more suburban Purveyor service territories.

Other desired areas of behavioral change did not occur: inspections of automatic watering systems did not increase, nor did the proportion using low-volume water measures. However, no ground was lost in these areas. While a quarter of customers report taking out some of their lawn, most did it for reasons other than saving water.

Evidence of Knowledge, Awareness, and Attitude Changes

- ✓ At the regional level:
 - ✓ Since 1999, while watering behavior has changed, the importance of having a green lawn has not changed. Outdoor messages have concentrated on behavioral change and have not tried to change customer attitudes about lawn color. Between 1994 and 1999 the proportion of customers with lawns that said it was important to have a green lawn declined from 61% to 46%, and it has stayed at this level. Purveyor area customers attach more importance to green lawns than Seattle direct customers.
 - ✓ Based on interviews with participating nurseries, landscape industry representatives, and utility staff, collaborating on the soaker hose promotion produced stronger, and ongoing, working relationships.
 - ✓ Some nurseries participating in the Soaker Hose promotion noted that many customers have become more knowledgeable about watering and environmentally friendly gardening approaches, but that they still need considerable education and reinforcement.
 - ✓ Despite some strain in previous working relationships (stemming from the 1992 drought), both nurseries that participated in the soaker hose promotion and utilities said they want to work together on future promotions and to “go in the same direction” on water and environmental responsibility.
- ✓ At the participant level:
 - ✓ The Soaker Hose Rebate promotion made 11% of buyers aware of soaker hoses for the first time.
 - ✓ 39% of Soaker Hose participants said they participated at least in part due to the drought alert.
 - ✓ When asked for their most important reason to participate in the soaker hose promotion, respondents often gave more than one reason. Just over half (53%) said it was to be more water efficient and another 16% specifically said the drought alert. Other important reasons to participate included saving money on the hoses (23%) or on their water bill (17%), making watering more convenient (19%), having a healthier garden (17%), and past good experience with soaker hoses (9%).

- ✓ 81% of participants expect to save water with their soaker hoses, and 87% believe the promotion was being done to help customers save water or use it more efficiently (even though the hoses may not save water if not installed/used correctly).
- ✓ 28% of soaker hose rebate participants bought soaker hoses for the first time through the promotion.
- ✓ Only 1% of Soaker Hose participants said they were replacing old soaker hoses, indicating that most hoses would be new applications for the hoses. For the most part, participants reported that the hoses would replace hand watering or hose-end sprinklers.
- ✓ About 84% of hoses bought through the Soaker Hose Promotion were installed.
- ✓ Participants followed some, but not all, of the correct procedures to install and operate their soaker hoses. While most (84%) didn't use a run longer than 100 feet and most (90%) didn't water their lawns with the hoses, many fewer used a Y-type shut-off valve on their faucets (43%), covered their soaker hoses with mulch (36%), and checked their soil for moisture after watering (60%).

Evidence of Customer Satisfaction

- ✓ Most participants (79%) in the Soaker Hose promotion reported being very satisfied with their hoses, 15% were somewhat satisfied, and only 5% were less than satisfied.
- ✓ Participants saw the soaker hoses as a more convenient way of watering in terms of saving time, eliminating hand watering, and being able to put the hoses on a timer.
- ✓ Most participants said they had no trouble finding the soaker hoses at the nurseries, filling out the rebate forms, or getting questions answered about the hoses.
- ✓ Some customers were not clear, however, about the percent of the rebate, with 36% saying they had some trouble understanding how much discount they would receive.
- ✓ 95% of Soaker Hose participants say they would recommend soaker hoses to others like themselves.
- ✓ The benefits to nurseries for participating in the soaker hose promotion exceeded their expectations. Many sold more hoses than they could have imagined, made money, attracted new customers, and helped customers get through the drought and keep landscapes alive.
- ✓ Anecdotal evidence suggests that nurseries are also very happy with the Naturals materials that nurseries distribute.
- ✓ Although nurseries were generally very pleased with the soaker hose partnership, they gave these recommendations for better soaker hose rebate partnerships in the future, many of which can be applied to other program efforts that would involve them:

- Plan during the slow late fall and early winter months – October through January – so that nurseries can be involved in program design and suggest improvements from their perspectives; can review and have input to promotional materials; and can get the best prices for hard goods from their suppliers.
- Provide the program information packet sooner, but keep the same type of program if possible, so that it's familiar to nurseries and to customers.
- Continue to promote soaker hoses in May and June.
- Continue advertising and promotion support from utilities, but make sure the level of the discount, and any other terms of the promotion, are specific and clear. For instance, although the ads said “up to 50% off,” some customers remembered it was a flat 50% discount, and were upset if it were different (less or more!).
- Involve suppliers early on to ensure supply of the product.
- Continue to combine nursery discounts and utility rebates to provide a really good deal for customers.
- If possible, shorten or make easier rebate forms and administrative requirements.
- Explore with nurseries the most convenient and effective ways to integrate the distribution of informational materials with the promotion, given limited space and staff (and often long lines) at the nurseries. (Note: From the customer survey, about half or fewer of customers reported getting these materials.) Potential solutions might include in-store reminders (e.g., on point-of-purchase signs, on the rebate forms, or on the cash registers), and more visible or workable kiosks or information centers.

Evidence of Effective Promotion

- ✓ **Soaker Hose** outreach was effective: 22% of regional customers with a yard recalled the promotion five months later. Interest was significantly higher among those who were very interested in gardening (26%) than those who were not (12%), indicating the target audience of active gardeners was being reached.
- ✓ The Soaker Hose participant survey showed that newspaper ads and nursery signs and sales people were effective at informing and attracting active, interested gardeners (the target audience for the promotion) to buy soaker hoses through the promotion.
- ✓ While two-thirds of Soaker Hose participants correctly identified a nursery as the source for the 25% discount, only 19% knew that water utilities provided the \$5.00 rebate, which was a larger share of the reduced price than the discount.
- ✓ Even though soaker hoses were a hook to distribute water saving information, only about half of participants (54%) in the Soaker Hose promotion reported getting separate instructions from their water utility about how to use the hoses. Only 49% said they got a separate brochure called “Smart Watering,” and only 32% recalled getting a Naturals Brochure titled “Growing Healthy Soil.” On the positive side, however, the vast majority of those receiving the fact sheet and brochures report reading the materials and being satisfied with them.

CHAPTER 6: UMBRELLA MARKETING AND MESSAGING ACTIVITIES

SECTOR OVERVIEW

According to an interview with the program manager and the *2001 Conservation Annual Report*, the goal of Umbrella Marketing and Messaging effort is to expand, over the 10 years of the 1% program, the ethic of water conservation among all SWP water utility customers. The major strategy for doing this is to unite the residential, commercial, and school components of the SWP as one “identifiable” program under an integrated branding campaign. In 2001, the tag line of the branding campaign was “*What will you save today?*”

2001 PROGRAM ELEMENTS

The original plan for 2001 activities was to increase customer awareness of why our region needs to save water at the rate of 1% per year for ten years. However, the drought alert transformed the campaign into one that asked customers to take short-term curtailment actions that would result in 10% “immediate” savings.

At the same time, it was important that any overall messaging would not interfere with long-term conservation goals. Thus, the Umbrella Messaging largely supported residential indoor and landscape conservation activities that were in the long-term plan. Umbrella Messaging does not have a separate goal for water savings since it serves in this support function.

The major elements and strategies of the 2001 drought alert strategy were:

- Partnerships with TV media to produce drought tips and information delivered through their weather people, coupled with radio and television advertising and media events to raise awareness of why and how to conserve.
- Targeted marketing to promote specific conservation events and special rebate offers (e.g., Toilet Round-Ups).
- Weekly press release to update media on water shortage and current supply conditions, combined with specific conservation tips and accomplishments.
- Consistent use of the 'What Will You Save Today?' tag line and logo to deliver messages.

PROGRESS INDICATORS

Listed below are the indicators that will be used to assess the progress of the Umbrella Messaging Activities. The results of umbrella support for indoor and outdoor program efforts are reported in those individual sections. More general changes in knowledge, awareness, and attitudes, and behaviors, either over the past two years or during the drought alert, and indications of successful outreach efforts, will be reported here. Both impact and process findings will be reported in one section.

Table 23 Progress Indicators for Umbrella Messaging

Impact Indicators	<i>Umbrella efforts support other programs and are not responsible for direct water savings.</i>
Process Indicators	
✓ Changes in customer knowledge, awareness, attitudes	X General Only
✓ Changes in customer behavior	X Under other programs unless general
✓ Customer satisfaction	
✓ Customer satisfaction	
✓ Effective outreach or media	X
✓ Increased market share	
✓ Curtail water use due to drought alert	
✓ Test a delivery strategy	

KEY EVALUATION FINDINGS

Summary

Umbrella Messaging efforts were effective during 2001, especially in terms of “getting the word out” about the drought alert, and in partnering with media to provide water conservation information and tips to the public. Almost all customers knew about the drought alert and many clearly changed their behavior and reduced use, as demonstrated by consumption data, regional tracking surveys, and participant surveys. Comparisons of the results from the 1999 and 2001 Regional Water Conservation Surveys also strongly support the concept that a conservation “ethic” and a “can do” attitude is becoming stronger year by year, especially for those areas where attention is focused (e.g., salmon).

Evidence of Behavioral Changes

- ✓ In October 2001, SoundStats data showed that 65% of customers reported they changed behavior or purchased a product to use less water and that 92% of customers continued to use less water.
- ✓ Over half (58%) of customers responding to the regional conservation survey reported they are using less water than they did two years ago; 42% of these customers report

they have reduced their use by 10% or more (one-quarter of residential customers overall).

Evidence of Changes in Customer Knowledge, Attitudes, and Awareness

- ✓ 91% of customers were aware of the drought alert, according to the 2001 Regional Survey
- ✓ The October 1, 2001 SoundStats survey results reported that 71% of customers gave a "good" rating – the highest on a three point scale - for the efforts of their local water utility to manage water supply
- ✓ The 2001 Regional Conservation Survey results provided these insights into customer knowledge, attitudes, and awareness:
 - Concern about water supply issues has not increased much since 1999, despite the drought alert. The findings suggest a strong awareness of finite water supplies and the threat of growth to having enough supply. At the same time, most residential customers feel they can greatly or somewhat influence, through their own behaviors, whether we have enough. These findings may suggest that customers, due the conservation and drought messages, may feel more confident about being able to do their part to manage water use effectively.
 - The proportion of customers who feel it's "very important" to actively conserve water has risen by 9% since 1999, from 49% to 58%.
 - Many customers think they can save more water, even though they have decreased their use.
 - A third of direct Seattle customers could benefit from knowing that saving water could reduce their sewer bill as well.
 - Customers associate conservation with austerity and with efficiency
 - 84% of customers are aware their water utilities provide water conservation information and services, 88% believe these services are very or somewhat important, and 89% are very or somewhat satisfied with the services.
 - When asked to choose "the most important reason" among four reasons to save water, customers most often chose environmental reasons: generally protecting the environment (47%), and having enough water for salmon (22%). They chose saving money on bills (15%), and delaying the development of new supplies (10%) less often.
 - Notably, utility and media focus on salmon issues has raised the importance of salmon as a reason to save water from 11% "most important" in 1999 to 22% "most important" in 2001.

Evidence of Effective Outreach and Media Coverage

A number of the awareness, knowledge, and attitudinal indicators already presented contribute to the evidence that outreach and media coverage worked during the drought alert, including the high level of awareness about the drought and positive utility ratings during a drought alert. The following evidence of effective outreach and media coverage comes from the program manager and from the *2001 Conservation Annual Report*.

- ✓ SWP formed media partnerships with two local TV stations to create and run spring and summer ads about water conservation and the drought. Three TV ads were created that aired throughout the month of May, when TV viewer ship is often at its highest (“sweeps” month).
- ✓ This partnership doubled message exposure because the stations both bought half of the ad “buys”, allowing \$300,000 worth of commercial TV to be purchased for \$150,000. Both stations produced the ads for free.

CHAPTER 7: YOUTH AND EDUCATION ACTIVITIES

SECTOR OVERVIEW

Youth and Educational Activities provide resources on water conservation (and other water topics) to school districts and private schools throughout the service region. The purpose of these programs is to work with school districts and teachers to identify and provide resources that help students learn and internalize appropriate water knowledge, attitudes, and behaviors. Utility staff works closely with school district curriculum staff to identify and meet training and material resource needs, so that water topics can be effectively fit into educational goals.

Many of the WSP utilities work directly with local school districts to deliver conservation curriculum and training such the Living Wisely and In Concert with Environment programs.. But the region-wide programs are especially important to Purveyors because they require, and provide, direct contact and coordination with individual school districts and customers.

According to the program managers and the *2001 Conservation Annual Report*, Youth and Educational Activities, like Umbrella Messaging, support savings achieved by other residential programs; they do not have a water savings goal, even though some of the reports contain estimates of energy and water savings.

PROGRAM ELEMENTS

In 2001, these elements made up regional Youth and Education Activities:

Shared Waters student books. These activity booklets help students understand the connection between drinking water supplies, salmon and conservation. They are distributed in conjunction with schools and special events.

Regional Student Conservation Kits. These kits contain simple conservation devices that can be used at home plus activities for learning about and saving water indoors and outdoors. They are distributed on a voluntary basis.

Water Matters Teacher Workshops. Elementary and middle school teachers learn the fundamentals of water and its applications through these workshops.

WaterSmart Web Page. This site features water supply information, a Cedar River Virtual Watershed Tour, a Teacher's Page, a Kid's Activity Page, and various other items. Several conservation activities constitute the kids pages

Table 24 Progress Indicators for Youth And Educational Activities

Progress Indicators	Program Elements			
	Shared Waters Book	Conservation Kits	Water Matters Workshop	Water Smart Web Page
Impact Indicators	<i>Youth and teacher education programs support other efforts and not responsible for direct water savings. However, two impact indicators are relevant.</i>			
✓ Changes in customer behavior		X	X	X
✓ Number of rebates , kits, or participants		X	X	X
Process Indicators				
✓ Changes in customer knowledge, awareness, attitudes	X	X	X	X
✓ Customer satisfaction	X	X	X	X
✓ Effective promotion	X	X	X	X
✓ Insights about a new program strategy				

KEY EVALUATION FINDINGS

Summary

Information about the progress of Youth and Education Activities is based upon brief summary reports and interviews with Seattle and Purveyor program staff. Overall, the program achieved successes in 2001 and also faced challenges. Attendance was close to the goals set for student classes, and was good at the one teacher workshop that was held (the goal was three). While interest was strong in the topic, especially during a drought year, it still challenging to fit resources with teacher workloads.

Staff expressed some resource and credibility challenges, especially since the programs rely on long-term change that is not well tracked over time. (Notably, in a recent focus group for regional utilities, several younger participants, said they had “learned all about water conservation” in school.) The discussions of each educational element will address all program indicators, impact and process.

Program Elements

Conservation Kits

- ✓ In response to the drought, a special water conservation kit was developed for elementary school students. This kit contained an information sheet with instructions, a device to save water and conservation tips. By September 2001, 19,500 of the 20,000 kits had been distributed regionally.
- ✓ A revised version of this kit was developed for 2002-03 distribution.

Water Matters Teach Workshop

- ✓ One "Water Matters" teacher workshop was conducted in 2001, with 23 educators attending from throughout the region. The goal for 2001 was to conduct three workshops with 20-25 teachers in each one.
- ✓ Nine participants in the Water Matters Workshop gave very positive, if very brief, reviews on the content and usefulness of the workshop.

Water Smart Web Page

- ✓ The first of several planned virtual tours was created. No evaluative information is available about reception or use of this website, and no goals have been set for it.

Shared Waters Student Books

- ✓ 10,000 books were created; 5000 were distributed through local utilities.